

In re Patent Application of:

**CHAPPAZ**

Serial No. 09/855,734

Filing Date: **MAY 15, 2001**

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**In the Claims:**

Claims 1 to 10 (Cancelled)..

11. (Previously Presented) A process for estimating an impulse response of a transmission channel defined by a sender, a receiver, and means of propagation extending therebetween, the process comprising:

calculating a first estimate of the impulse response of the transmission channel considered as a whole; and

correcting the first estimate independently of information being transmitted based upon an impulse response of the sender and an impulse response of the receiver being known to obtain a corrected final estimate of the impulse response of the transmission channel.

12. (Previously Presented) A process according to Claim 11, wherein correcting the first estimate comprises calculating coefficients of the corrected final estimate by multiplying coefficients of the first estimate by a matrix whose coefficients are predetermined and representative of the impulse responses of the sender and of the receiver and are independent of the information transmitted.

13. (Previously Presented) A process according to Claim 11, wherein calculating the first estimate is performed using a blind estimate.

14. (Previously Presented) A process according to Claim 11, wherein calculating the first estimate is performed using a learned estimate.

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15. (Previously Presented) A process according to Claim 11, wherein the calculating and correcting is performed by a digital signal processor.

16. (Previously Presented) A process according to Claim 11, wherein the calculating and correcting is performed via software.

17. (Previously Presented) A process according to Claim 11, wherein the calculating and correcting is performed by a cellular mobile telephone.

18. (Previously Presented) A process for estimating an impulse response of a transmission channel defined by a sender, a receiver, and a propagation path extending therebetween, the process comprising:

calculating a first estimate of the impulse response of the transmission channel; and

correcting the first estimate independently of information being transmitted based upon an impulse response of the sender and an impulse response of the receiver being known to obtain a corrected final estimate of the impulse response of the transmission channel, with correcting the first estimate comprising calculating coefficients of the corrected final estimate by multiplying coefficients of the first estimate by a matrix whose coefficients are predetermined and representative of the impulse responses of the sender and of the receiver.

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19. (Previously Presented) A process according to Claim 18, wherein the coefficients of the matrix are independent of the information transmitted.

20. (Previously Presented) A process according to Claim 18, wherein calculating the first estimate is performed using a blind estimate.

21. (Previously Presented) A process according to Claim 18, wherein calculating the first estimate is performed using a learned estimate.

22. (Previously Presented) A process according to Claim 18, wherein the calculating and correcting is performed by a digital signal processor.

23. (Previously Presented) A process according to Claim 18, wherein the calculating and correcting is performed via software.

24. (Previously Presented) A process according to Claim 18, wherein the calculating and correcting is performed by a cellular mobile telephone.

25. (Previously Presented) A receiver comprising:  
a front end portion for receiving information transmitted via a transmission channel defined by said front end portion, a sender and a propagation path extending therebetween; and

an impulse response estimation circuit comprising

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a first estimation circuit connected to said front end portion for calculating a first estimate of an impulse response of the transmission channel, and

a second estimation circuit connected to said first estimation circuit for correcting the first estimate independently of information being transmitted via the transmission channel based upon an impulse response of the sender and an impulse response of said front end portion being known to obtain a corrected final estimate of the impulse response of the transmission channel.

26. (Previously Presented) A receiver according to Claim 25, wherein said second estimation circuit comprises:

a memory for storing a matrix whose coefficients are predetermined and representative of the impulse responses of the sender and said front end portion, and is independent of the information transmitted; and

circuitry for multiplying coefficients of the first estimate by the matrix for obtaining coefficients of the final estimate.

27. (Previously Presented) A receiver according to Claim 25, wherein said first estimation circuit performs a blind estimate.

28. (Previously Presented) A receiver according to Claim 25, wherein said first estimation circuit performs a learned estimate.

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29. (Previously Presented) A receiver according to Claim 25, wherein said first and second estimation circuits are defined within a digital signal processor.

30. (Previously Presented) A receiver according to Claim 25, wherein said front end and said first and second estimation circuits are defined within a cellular mobile telephone.

31. (Previously Presented) A receiver according to Claim 25, wherein the propagation path comprises at least one of free space and an electrical cable.

32. (Previously Presented) A computer-readable medium having computer-executable instructions for estimating an impulse response of a transmission channel defined by a sender, a receiver, and a propagation path extending therebetween, the computer-executable instructions comprising:  
calculating a first estimate of the impulse response of the transmission channel; and

correcting the first estimate independently of information being transmitted based upon an impulse response of the sender and an impulse response of the receiver being known to obtain a corrected final estimate of the impulse response of the transmission channel.

33. (Previously Presented) A computer-readable medium according to Claim 32, wherein correcting the first estimate comprises calculating coefficients of the corrected

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final estimate by multiplying coefficients of the first estimate by a matrix whose coefficients are predetermined and representative of the impulse responses of the sender and of the receiver and are independent of the information transmitted.

34. (Previously Presented) A computer-readable medium according to Claim 32, wherein calculating the first estimate comprises performing a blind estimate.

35. (Previously Presented) A computer-readable medium according to Claim 32, wherein calculating the first estimate comprises performing a learned estimate.

36. (Previously Presented) A computer-readable medium according to Claim 32, wherein the calculating and correcting is performed by a cellular mobile telephone.